

Spending and Economic Activity from Recreation at Oregon State Park Properties, Valleys Region and select Mountain Region Properties, 2015 update



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Cover photo: Mountain biking at Dexter State Recreation Site

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Executive summary

The spending of visitors to Oregon State Parks properties generates economic activity in the communities located around those properties. We use a survey of visitors to Oregon State Parks properties located in the Valleys Region and part of the Mountain Region to estimate the average trip spending of visitors. We then combine those estimates of average spending with estimates of the number of recreation visits and an economic model to quantify the magnitude of local economic activity generated from Oregon State Parks visitor spending.

Within the Valleys Region, the average trip spending of visitors ranges from about \$24 per party per trip for local residents on day trips to properties in Lane County to nearly \$261 per party per trip for non-local residents on overnight trips away from home recreating in the northern Willamette Valley. In the South Central District of the Mountain Region, average visitor spending ranged from \$28 for those on local day trips to \$310 for those on non-local overnight trips. On average, most local area expenses are for gasoline, groceries, and purchases in restaurants/bars. The reported 8.2 million visits to Valleys Region Oregon State Parks properties yield about \$214.7 million in visitor spending in local communities. Non-local residents account for about \$153.7 million of that spending.

The economies of local communities are bolstered by the total spending from visitors and from the “chain reaction” of economic activity that results when those businesses and their employees also spend money in the local community. That chain reaction is also referred to as the “multiplier effect.” For the Valleys Region, spending in the local areas around Oregon State Parks properties generates about \$196.4 million in total sales, supports about 2,700 full- and part-time jobs, and generates total labor income of \$73.9 million. Counting only the spending of non-local visitors, the economic impact of visitor spending within the Valleys Region amounts to total sales of \$142.8 million, about 1,948 full- and part-time jobs, and \$53.2 million in labor income.

Introduction

The properties of the Oregon State Parks system provide a valuable recreation resource for residents of, and visitors to, Oregon. Additionally, the towns and cities around Oregon State Parks properties benefit economically from government spending for property operations and from the spending of visitors recreating at Oregon State Parks facilities. In many cases, the economic activity generated from recreation visitors is an integral component of local economies. This report describes the spending, and associated economic activity, of recreation visitors to Oregon State Parks Properties in the Valleys Region and portions of two districts within the Mountain Region (Box 1). The Valleys Region properties were sampled between 2011 and 2014. Results from sampling at Valleys Region properties in 2011 and 2013 are reported in previous reports (White and Goodding 2012, 2013, 2014), although we report total results for the Valleys Region here as well.

More than 3,000 surveys were collected from visitors sampled at properties in 2014. A portion of those surveys are used in this analysis (see Appendix). Day use areas of properties were sampled via on-site visitor surveys. Overnight use areas (i.e., campgrounds) were sampled through an online survey of visitors using the reservation system for Oregon State Parks. The survey was designed to measure visit and visitor characteristics, visitor satisfaction, and visitor trip spending in the local area around the recreation property. The questions used to elicit local recreation trip spending were consistent with those used in the USDA Forest Service recreation monitoring program (Zarnoch et al. 2011) and other sampling programs of recreation visitors in Oregon (Lindberg and Bertone-Riggs 2015a,b).

Measuring how the spending of recreation visitors affects the economies of local communities requires 1) an estimate of total recreation visitation within different trip types, 2) an estimate of the average spending of recreation visitors engaged in different trip types, and 3) a model of the local economy.

Box 1—Oregon State Parks properties sampled in 2014

Valleys Region

Willamette District

Jasper SRS

Dexter SRS

Joseph H. Stewart SP

Lowell SRS

Mountain Region

South Central District

Casey SRS

Elijah Bristow SP

TouVelle SRS

Valley of the Rogue SP

Eastern District

Unity Lake SRS

Average trip spending

Spending averages were estimated using data collected from visitors to all of the properties within the Valleys Region between 2011 and 2014 and those properties sampled within the Mountain Region in 2014. In all cases, survey respondents reported trip expenditures made by their entire travel party within 30 miles of the visited property. Trip expenses were reported within 10 expenditure categories, such as spending for hotels/motels/B&Bs, campground fees, restaurants, and gas and oil. Because they were interviewed in the middle of the trip, respondents interviewed in day use areas were asked to report expenses already made as well as anticipated expenses. Expenses at home in preparation for the trip and expenditures traveling to, but beyond 30 miles of the property, were not reported. The visitor spending reported here does not include spending for equipment, gear, or other durable goods that might be used for recreation.

Our goal is to estimate spending averages for meaningful groups of visitors. In developing the approach to grouping visitors, we recognize that visitor spending is mostly influenced by the type of recreation trip taken (day or overnight) and whether the individual lives in the immediate area of the recreation destination (White and Stynes 2008). In general, the recreation activity of the trip has little influence over trip spending once the type of trip is taken into account. In our approach, we have grouped visitors into five distinct types of trips to Oregon State Parks:

- **Non-local day trips:** non-local residents on day trips to the area,
- **Non-local overnight:** non-local residents staying overnight at the property or in the area,
- **Local day trips:** local residents on day trips to the area,
- **Local overnight:** local residents staying overnight at the property or in the area,
- **Non-primary:** visits where recreating at the property is not the primary reason for the trip away from home.

Local residents were identified as those who travelled 30 miles or less from home to reach the facility. Visitors were classified as overnight visitors if they reported a night spent away from home in the local area, reported local expenses on lodging or camping, or claimed to be participating in camping at the property. Visitors not classified as overnight were classified as day visitors. In some cases, an individual may be on an overnight trip away from home but on only a day trip to the local area. Those individuals are classified as “day” visitors. Finally, visitors were classified as non-primary visitors if their stated reason for traveling away from home was something other than recreation or if the property was not the main recreation destination. In some analyses, it is desirable to exclude the recreation trip spending of non-primary visitors. Note that for the Valleys Region about 92% of non-primary visits are associated with non-locals.

In this report, we present both the newly estimated spending averages for properties sampled in 2014 as well as the previous spending averages reported for areas of the Valleys Region sampled in 2011, 2012 and 2013.

The newly estimated spending averages for the properties sampled in year 2014 are based on a sample of 1,471 visitors (see Appendix). We developed distinct spending averages for the Willamette District properties located in Lane County (including Jasper SRS, Elijah Bristow SP, Dexter SRS, and Lowell SRS) (Table 1) and the South Central District properties of the Mountain Region (including Casey SRS, Illinois River Forks SP, Joseph H. Stewart SRA, TouVelle SRS, and Valley of the Rogue SP) (Table 2). The sample size of visitors to Unity Lake State Recreation Site (Mountain Region) was too small to generate a statistically reliable estimate for that property. Until more units are sampled within the Eastern District, the spending averages in Table 1 are a reasonable proxy for visitor spending at Unity Lake State Recreation Site.

Average trip spending for parties recreating at Willamette District properties in Lane County ranges from about \$24 for those parties on local day trips to about \$249 per trip for non-local parties on overnight trips to the area (Table 1). Visitors to sampled properties within the South Central District had higher spending averages than visitors to properties in Lane County, regardless of the type of trip taken (Table 2). This could reflect greater number of places to spend money around properties in the South Central District, a longer length of stay for those visitors, or larger travel parties for visitors to the South Central District. The average number of people in the travel party was greater in the South Central District compared to Willamette District properties (see Appendix).

Table 1— Average spending of visitors to Oregon State Parks Valleys Region, Lane County properties, \$ per party per trip

| Spending categories | Non-local Day | Non-local OVN | Local Day | Local OVN | Non-primary |
|------------------------------|----------------------|----------------------|------------------|------------------|--------------------|
| Lodging | 0.00 | 44.58 | 0.00 | 13.69 | 5.62 |
| Camping | 0.00 | 19.31 | 0.00 | 14.14 | 5.70 |
| Restaurant | 5.12 | 27.19 | 2.78 | 14.58 | 7.20 |
| Groceries | 8.41 | 38.32 | 6.76 | 25.63 | 17.88 |
| Gasoline | 21.80 | 69.60 | 10.93 | 21.29 | 30.00 |
| Entry Fees | 1.27 | 28.74 | 0.82 | 3.71 | 4.22 |
| Recreation & entertainment | 0.92 | 8.04 | 2.28 | 6.07 | 1.63 |
| Souvenirs and other expenses | <u>2.54</u> | <u>13.11</u> | <u>0.20</u> | <u>3.52</u> | <u>2.39</u> |
| Total | 40.07 | 248.90 | 23.77 | 102.63 | 74.63 |
| N | 42 | 29 | 386 | 40 | 116 |
| Std. Dev. of Total | 74 | 280 | 40 | 113 | 128 |

All figures expressed in 2012 dollars. Percent error represents the size of the 95% confidence interval around the estimate of total visitor spending.

Table 2— Average spending of visitors to Oregon State Parks Mountain Region, South Central District properties, \$ per party per trip

| Spending categories | Non-local Day | Non-local OVN | Local Day | Local OVN | Non-primary |
|------------------------------|----------------------|----------------------|------------------|------------------|--------------------|
| Lodging | 0.00 | 14.84 | 0.00 | 6.87 | 6.49 |
| Camping | 0.00 | 70.65 | 0.00 | 46.12 | 17.85 |
| Restaurant | 7.29 | 30.05 | 9.48 | 24.42 | 16.76 |
| Groceries | 15.70 | 64.29 | 6.96 | 64.47 | 16.41 |
| Gasoline | 24.11 | 76.29 | 7.09 | 47.47 | 34.36 |
| Entry Fees | 6.32 | 12.86 | 2.28 | 11.48 | 4.64 |
| Recreation & entertainment | 1.60 | 24.88 | 0.84 | 5.30 | 5.88 |
| Souvenirs and other expenses | <u>0.36</u> | <u>16.92</u> | <u>1.23</u> | <u>5.09</u> | <u>5.86</u> |
| Total | 55.39 | 310.78 | 27.88 | 211.23 | 108.24 |
| N | 94 | 302 | 122 | 96 | 926 |
| Std. Dev. of Total | 85 | 295 | 59 | 206 | 208 |

All figures expressed in 2012 dollars. Percent error represents the size of the 95% confidence interval around the estimate of total visitor spending.

The spending of recreation visitors is a reflection of the types of goods and services one needs to recreate. Food, gasoline, and lodging typically comprise the majority of recreation visitor expenses during recreation day trips. Day visitors make most of their expenditure to purchase food and gasoline (tables 1 and 2). For overnight visitors, lodging and camping fees, gasoline, and food account for most recreation spending. The spending of recreation visitors will have the greatest impact to those businesses that directly sell those goods and services to consumers. Other businesses will benefit indirectly by selling supplies to those business directly engaging recreationists.

For completeness, the average spending (described in previous reports) of visitors to other areas within the Valleys Region is shown in tables 3 through 5. Most of the Columbia River Gorge Management Unit properties were sampled together in 2012 and we developed a distinct spending profile for the Columbia River Gorge Management Unit (Table 3). Visitors to Gorge Management Unit properties tended to spend a bit more on gasoline (even after correcting for inflation) and souvenirs than visitors to elsewhere within the Valleys Region.

Table 3— Average spending of visitors to Oregon State Parks Valleys Region, Portland Metro District, Columbia River Gorge Management Unit properties, \$ per party per trip

| Spending categories | Non-local Day | Non-local Overnight | Local Day | Local Overnight | Non-primary |
|------------------------------|----------------------|----------------------------|------------------|------------------------|--------------------|
| Lodging | 0.00 | 27.52 | 0.00 | 19.06 | 37.02 |
| Camping | 0.00 | 33.44 | 0.00 | 27.69 | 12.32 |
| Restaurant | 11.10 | 41.39 | 6.29 | 22.24 | 35.42 |
| Groceries | 10.48 | 40.10 | 15.40 | 38.61 | 20.92 |
| Gasoline | 16.43 | 46.98 | 11.89 | 26.30 | 33.28 |
| Entry Fees | 3.11 | 11.65 | 3.53 | 9.65 | 5.36 |
| Recreation & entertainment | 1.38 | 6.94 | 1.91 | 4.84 | 3.16 |
| Souvenirs and other expenses | <u>1.87</u> | <u>17.57</u> | <u>1.06</u> | <u>4.02</u> | <u>12.22</u> |
| Total | 44.37 | 225.60 | 40.08 | 152.41 | 159.71 |
| Sample size | 336 | 463 | 821 | 154 | 1,447 |
| Std. dev. of total | 53.0 | 259.3 | 48.9 | 176.5 | 282.8 |
| Percent error (95% level) | 13.0% | 10.7% | 8.5% | 18.7% | 9.3% |

All figures expressed in 2012 dollars. Percent error represents the size of the 95% confidence interval around the estimate of total visitor spending.

Visitors to properties within the Portland Metro District (excluding the Columbia River Gorge Management Unit properties) tended to have lower spending if they were on a non-local trip compared to other properties within the Valleys Region (Table 4). This could indicate that those traveling from outside the area to visit a Portland Metro District property have short stays within the area. Local day visitors to Portland Metro District properties had higher patterns of spending at restaurants than visitors to properties elsewhere within the Valleys Region. Locals may be combining State Parks' recreation with other leisure activities (i.e., a meal in a restaurant).

Table 4—Average spending of visitors to Oregon State Parks Valleys Region, Portland Metro District (excluding Gorge properties), \$ per party per trip

| Spending categories | Non-local Day | Non-local OVN | Local Day | Local OVN | Non-primary |
|------------------------------|----------------------|----------------------|------------------|------------------|--------------------|
| Lodging | 0.00 | 13.95 | 0.00 | 11.26 | 13.25 |
| Camping | 0.00 | 62.16 | 0.00 | 47.73 | 42.46 |
| Restaurant | 10.49 | 16.80 | 8.14 | 11.79 | 34.80 |
| Groceries | 4.84 | 56.31 | 5.82 | 55.67 | 41.33 |
| Gasoline | 12.67 | 41.22 | 12.49 | 27.55 | 50.11 |
| Entry Fees | 5.34 | 13.32 | 4.27 | 8.79 | 7.06 |
| Recreation & entertainment | 0.36 | 2.41 | 0.65 | 4.85 | 6.32 |
| Souvenirs and other expenses | 0.06 | 2.37 | 0.34 | 4.01 | 13.79 |
| Total | 33.75 | 208.53 | 31.69 | 171.65 | 209.12 |
| N | 85 | 255 | 157 | 115 | 352 |
| Std. Dev. of Total | 27 | 167 | 35 | 115 | 183 |

All figures expressed in 2012 dollars. Percent error represents the size of the 95% confidence interval around the estimate of total visitor spending.

We developed a final set of spending averages for properties within the North Willamette Valley (Table 5). This reflects the average spending of visitors to the Willamette District, minus the Lane County properties. With the exception of local day visitors, the spending of visitors to these properties is greater than anywhere else within the Valleys Region. Spending patterns of visitors to these properties is very consistent with those found for other state and federal outdoor recreation areas. The greatest expenses for day visitors is gasoline and food. Overnight visitors make most of their expenses for lodging and groceries.

Table 5—Average spending of visitors to Oregon State Parks Valleys Region, North Willamette Valley properties, \$ per party per trip

| Spending categories | Non-local Day | Non-local OVN | Local Day | Local OVN | Non-primary |
|------------------------------|----------------------|----------------------|------------------|------------------|--------------------|
| Lodging | 0.00 | 55.71 | 0.00 | 20.64 | 30.14 |
| Camping | 0.00 | 33.55 | 0.00 | 33.20 | 16.83 |
| Restaurant | 12.52 | 48.87 | 5.25 | 17.24 | 24.48 |
| Groceries | 11.93 | 57.02 | 6.60 | 49.29 | 24.75 |
| Gasoline | 20.93 | 39.93 | 9.38 | 26.39 | 26.95 |
| Entry Fees | 5.69 | 14.15 | 3.01 | 9.04 | 4.97 |
| Recreation & entertainment | 3.57 | 7.46 | 0.40 | 5.90 | 2.23 |
| Souvenirs and other expenses | <u>1.85</u> | <u>4.71</u> | <u>1.02</u> | <u>7.22</u> | <u>6.42</u> |
| Total | 56.49 | 261.40 | 25.65 | 168.93 | 136.76 |
| N | 198 | 569 | 307 | 61 | 352 |
| Std. Dev. of Total | 73 | 243 | 39 | 144 | 183 |

All figures expressed in 2012 dollars. Percent error represents the size of the 95% confidence interval around the estimate of total visitor spending.

Economic contribution of Oregon State Parks visitors

Spending by recreation visitors for the purchase of goods (e.g., souvenirs) and services (e.g., restaurant meals or guided trips) creates economic activity in the communities around Oregon State Parks properties. To provide a good or service to a visitor, a business typically must hire employees and buy goods and services (e.g., fuel) from other businesses in the local area. Additionally, the employees of businesses serving visitors use their income to make their own household purchases in town. This “chain reaction” of economic activity in local communities resulting from visitor spending is quantified by a metric referred to as an “economic multiplier.” The economic activity resulting from the initial spending by visitors is referred to as the “direct effect;” the activity associated with businesses and employees interacting because of visitor spending are “secondary effects.” The combination of direct and secondary effects is referred to as the “total effects.”

There are several important considerations for interpreting the estimates of the economic contribution of visits to Oregon State Parks. First, in traditional economic impact analysis, the spending of those who live within the impact area of the park (within 30 miles—local residents) would be excluded from the analysis because their spending does not represent “new” money to the region. Because we have included the spending of locals, we refer to this analysis as an economic contribution analysis. Second, we have included only a portion of the spending of those visits where the stated reason for the trip away from home was something other than

visiting the Oregon State Parks property (e.g., business, visiting friends and relatives, recreating elsewhere). Economic contribution or impact analyses attempt to estimate the economic activity associated strictly with the presence of the recreation site. Because the recreation facility did not cause the trip away from home in those “non-primary” visits, much of the spending by those individuals cannot be attributed strictly to the property. We have applied the average spending of local resident day visitors to those visits where the trip was caused by something other than recreating at the property. Local resident day visitor spending is considered a conservative estimate of the additional cost of recreating at the property for someone who is already in the local area. Economic models were constructed for the county in which each property was located using the economic impact modeling tool IMPLAN (Minnesota IMPLAN Group 2013). The economic effects for the entire Valleys Region (and districts) was computed as the sum of local area effects for each property.

We characterize the economic contribution of recreation visitor spending in terms of business sales, full- and part-time jobs, labor income, and value added. We also report the full-time equivalent jobs for the direct effects.

- **Sales** are the sales of firms within the region associated with visitor spending.
- **Jobs** are the number of jobs in the region supported by the visitor spending. Job estimates include part time and seasonal positions.
- **Personal income** includes wage and salary income, proprietor’s income and employee benefits.
- **Value added** is a commonly used measure of the contribution of an industry or region to gross national or gross state product. Value added is personal income plus rents and profits, plus indirect business taxes. As the name implies, it is the “value added” by the region to the final good or service being produced. Value added can also be defined as the final price of the good or service minus the costs of all of the non-labor inputs to production.

For some types of purchases (e.g., gasoline, sporting goods, and souvenirs) only the retail and wholesale margin portions of visitor expenditures will accrue to the local economy. For those purchases, the expenditure associated with the cost of producing the product (e.g., refining gasoline) immediately “leaks” out of the region because that product (refined gasoline) is not made within the region. The “capture rate” describes what portion of total spending results in direct sales of products and services produced in the region. In this analysis, regional capture rates are 64% to 69%.

Property- and District-level reporting

Property-level economic contribution and impact estimates are desirable for a variety of local management purposes. Between 2011 and 2014, all major properties within the Valleys Region underwent visitor sampling. We used the average spending figures reported above along with estimates of recreation use in 2014 to estimate the economic activity resulting from recreation at Valleys Region properties and the handful of properties within the Mountain Region sampled in 2014. Because sample sizes are too small at individual properties to reliably estimate average

visitor spending at each property (and some properties were not sampled at all), we assume the average spending of visitors and the distribution of trip types is relatively stable across similar types of properties. For example, the average spending of local day visitors at one property is likely similar to the average spending of local day visitors at a similar nearby property. The distribution of trip types is more likely to differ meaningfully between properties. We have tried to account for likely differences in trip type by developing separate trip type distributions for day-use-only and day and overnight use properties. We control for differences across all properties related to the presence of a campground within the property. The transferability of trip-type distribution may be limited for sites such as waysides and small facilities used primarily as intermediate stops on recreation trips.

We estimate total spending and economic impact for two Oregon State Parks State Trails located within the Valleys Region: the Banks-Vernonia State Trail and the Columbia River Highway State Trail. Neither property was included in Oregon State Parks visitor sampling so we had to develop spending averages and trip-type distributions from other sources. We estimated average spending of visitors to both state trails using a sample of Oregon State Parks visitors whose primary activity was trail use (see Appendix), following the approach adopted in White and Stynes 2010. To estimate the types of recreation trips taken, we assumed that the trip type distribution of Oregon State Parks State Trail users was the same as that estimated for USDA Forest Service visitors (see Table 7) (White and Stynes 2010). Total spending and economic impact was estimated following the same approach for the other properties included here.

Property-level economic contribution and impact estimates represent the economic activity generated in the local communities around the individual properties (Table 6). Results for individual properties can be summed to represent an estimate of the regional/district totals. Economic activity generated in communities around properties is reported both in terms of economic contribution and economic impact. The economic impact results are computed based only on the spending of non-local visitors. The magnitude of economic activity generated around individual properties is influenced by the amount of recreation use at the property and the presence of a campground.

Table 6—Property-level economic activity generated from recreation visitor trip spending in 2014

| | | | | | Economic contribution (all visitors) | | | | Economic impact (non-local visitors only) | | | |
|----------------|---------------------------|--------------|-------------------|------------------------------|--------------------------------------|----------|-----------------------|----------------------|---|----------|-----------------------|----------------------|
| District | Region/property | Total visits | Spending (\$000s) | Spending—non-locals (\$000s) | Direct FTE jobs | All Jobs | Labor income (\$000s) | Value added (\$000s) | Direct FTE jobs | All Jobs | Labor income (\$000s) | Value added (\$000s) |
| | Valleys Region | 8,207,746 | \$214,717 | \$153,681 | 1,816 | 2,685 | \$73,742 | \$114,824 | 1,318 | 1,950 | \$53,429 | \$83,502 |
| Portland Metro | Ainsworth SP | 21,238 | \$828 | \$759 | 7 | 10 | \$254 | \$439 | 6 | 9 | \$233 | \$402 |
| Portland Metro | Bald Peak SSV | 146,768 | \$3,271 | \$2,472 | 28 | 39 | \$919 | \$1,350 | 21 | 30 | \$697 | \$1,025 |
| Portland Metro | Banks-Vernonia ST | 88,564 | \$2,426 | \$1,557 | 20 | 30 | \$1,033 | \$1,479 | 13 | 19 | \$672 | \$973 |
| Portland Metro | Benson SRA | 184,874 | \$3,371 | \$2,207 | 26 | 37 | \$958 | \$1,613 | 17 | 24 | \$632 | \$1,065 |
| Portland Metro | Bridal Veil Falls SSV | 230,584 | \$4,205 | \$2,753 | 33 | 46 | \$1,195 | \$2,012 | 21 | 30 | \$788 | \$1,329 |
| Portland Metro | Crown Point SSC | 612,448 | \$11,168 | \$7,313 | 86 | 122 | \$3,173 | \$5,345 | 57 | 81 | \$2,094 | \$3,529 |
| Portland Metro | Dabney SRA | 229,496 | \$4,185 | \$2,740 | 32 | 46 | \$1,189 | \$2,003 | 21 | 30 | \$785 | \$1,322 |
| Portland Metro | Dalton Point SRS | 216,260 | \$3,943 | \$2,582 | 31 | 43 | \$1,121 | \$1,887 | 20 | 28 | \$739 | \$1,246 |
| Portland Metro | Guy W Talbot SP | 449,828 | \$8,203 | \$5,371 | 63 | 90 | \$2,331 | \$3,926 | 42 | 59 | \$1,538 | \$2,592 |
| Portland Metro | Columbia River Highway ST | 291,618 | \$5,318 | \$3,482 | 41 | 58 | \$1,511 | \$2,545 | 27 | 38 | \$997 | \$1,680 |
| Portland Metro | Koberg Beach SRS | 200,000 | \$6,206 | \$3,701 | 48 | 68 | \$1,755 | \$2,951 | 29 | 41 | \$1,060 | \$1,786 |
| Portland Metro | L.L. Stub Stewart SP | 131,922 | \$6,279 | \$4,347 | 50 | 76 | \$2,712 | \$3,846 | 34 | 53 | \$1,893 | \$2,690 |
| Portland Metro | Lewis and Clark SRS | 272,482 | \$4,969 | \$3,253 | 38 | 54 | \$1,412 | \$2,378 | 25 | 36 | \$931 | \$1,570 |
| Portland Metro | Mayer SP | 271,554 | \$4,952 | \$3,242 | 38 | 54 | \$1,407 | \$2,370 | 25 | 36 | \$928 | \$1,565 |
| Portland Metro | Memaloose SP | 23,384 | \$912 | \$835 | 8 | 11 | \$280 | \$483 | 7 | 10 | \$257 | \$443 |
| Portland Metro | Molalla River SP | 272,920 | \$6,446 | \$1,956 | 52 | 81 | \$2,226 | \$3,186 | 16 | 25 | \$678 | \$959 |

| | | | | | | | | | | | | |
|----------------------------------|----------------------------|------------------|------------------|-----------------|--------------|--------------|-----------------|-----------------|------------|------------|-----------------|-----------------|
| Portland Metro | Rooster Rock SP | 548,384 | \$10,000 | \$6,548 | 77 | 110 | \$2,841 | \$4,786 | 51 | 72 | \$1,875 | \$3,160 |
| Portland Metro | Seneca Fouts Memorial SNA | 70,640 | \$1,288 | \$843 | 10 | 14 | \$366 | \$616 | 7 | 9 | \$241 | \$407 |
| Portland Metro | Starvation Creek SP | 183,796 | \$3,352 | \$2,195 | 26 | 37 | \$952 | \$1,604 | 17 | 24 | \$628 | \$1,059 |
| Portland Metro | Viento SP | 88,275 | \$1,898 | \$1,384 | 15 | 21 | \$552 | \$936 | 11 | 16 | \$407 | \$692 |
| Portland Metro | Champoeg State Heritage VC | 573,085 | \$25,029 | \$20,708 | 223 | 334 | \$9,258 | \$13,957 | 187 | 281 | \$7,743 | \$11,745 |
| Portland Metro | Milo McIver SP | 417,471 | \$708 | \$282 | 54 | 80 | \$2,371 | \$3,362 | 22 | 32 | \$957 | \$1,366 |
| Portland Metro Total | | 5,525,590 | \$118,385 | \$80,328 | 1,007 | 1,458 | \$39,745 | \$63,011 | 677 | 984 | \$26,784 | \$42,693 |
| Willamette | Cascadia SP | 65,960 | \$2,263 | \$1,419 | 20 | 29 | \$703 | \$1,061 | 13 | 19 | \$454 | \$697 |
| Willamette | Detroit Lake SRA | 197,433 | \$14,684 | \$14,466 | 133 | 203 | \$5,550 | \$8,504 | 132 | 200 | \$5,473 | \$8,391 |
| Willamette | Dexter SRS | 289,508 | \$6,119 | \$2,417 | 40 | 63 | \$1,954 | \$3,077 | 16 | 25 | \$792 | \$1,263 |
| Willamette | Elijah Bristow SP | 138,200 | \$2,337 | \$614 | 14 | 22 | \$708 | \$1,095 | 4 | 6 | \$188 | \$296 |
| Willamette | Fall Creek SRA | 99,338 | \$3,598 | \$3,006 | 25 | 39 | \$1,207 | \$1,942 | 21 | 33 | \$1,023 | \$1,656 |
| Willamette | Ft. Yamhill SHA | 34,180 | \$807 | \$679 | 7 | 10 | \$201 | \$318 | 6 | 9 | \$169 | \$270 |
| Willamette | Jasper SRS | 67,934 | \$1,191 | \$547 | 7 | 12 | \$366 | \$568 | 3 | 5 | \$167 | \$261 |
| Willamette | Lowell SRS | 169,168 | \$5,203 | \$3,656 | 36 | 57 | \$1,746 | \$2,796 | 27 | 41 | \$1,266 | \$2,051 |
| Willamette | Luckiamute Landing SP | 146,784 | \$2,565 | \$785 | 21 | 31 | \$630 | \$962 | 7 | 10 | \$197 | \$311 |
| Willamette | Maud Williamsons SRS | 68,680 | \$1,531 | \$1,157 | 13 | 18 | \$430 | \$632 | 10 | 14 | \$326 | \$480 |
| Willamette | North Santiam SRA | 65,552 | \$2,463 | \$1,975 | 22 | 32 | \$904 | \$1,353 | 18 | 27 | \$734 | \$1,106 |
| Willamette | Sarah Hemlick SRS | 64,304 | \$1,275 | \$498 | 11 | 16 | \$313 | \$485 | 4 | 6 | \$124 | \$192 |
| Willamette | Silver Falls SP | 957,783 | \$44,059 | \$38,130 | 393 | 590 | \$16,337 | \$24,662 | 344 | 517 | \$14,249 | \$21,603 |
| Willamette | Willamette Mission SP | 317,332 | \$8,238 | \$4,004 | 70 | 105 | \$2,950 | \$4,359 | 36 | 54 | \$1,482 | \$2,233 |
| Willamette District Total | | 2,682,156 | \$96,332 | \$73,353 | 814 | 1,227 | \$33,998 | \$51,813 | 641 | 966 | \$26,644 | \$40,809 |
| Mountain Region | | | | | | | | | | | | |
| South Central | Casey SRS | 198,170 | \$3,072 | \$2,318 | 24 | 38 | \$1,103 | \$1,719 | 18 | 29 | \$840 | \$1,305 |
| South Central | Illinois River Forks SP | 138,432 | \$2,146 | \$1,620 | 18 | 26 | \$621 | \$1,021 | 13 | 20 | \$474 | \$775 |

| | | | | | | | | | | | | |
|----------------------------|-------------------------|-----------|----------|----------|-----|-----|----------|----------|-----|-----|----------|----------|
| South Central | Joseph H Stewart SRA | 329,377 | \$11,166 | \$9,662 | 87 | 137 | \$3,981 | \$6,340 | 75 | 119 | \$3,458 | \$5,513 |
| South Central | TouVelle SRS | 292,484 | \$4,545 | \$1,018 | 34 | 55 | \$1,602 | \$2,500 | 8 | 12 | \$365 | \$560 |
| South Central | Valley of the Rogue SRA | 1,768,715 | \$19,065 | \$17,099 | 147 | 234 | \$6,930 | \$10,600 | 132 | 210 | \$6,224 | \$9,514 |
| South Central Total | | 2,727,178 | \$39,995 | \$31,717 | 309 | 489 | \$14,238 | \$22,180 | 246 | 389 | \$11,360 | \$17,667 |
| Eastern | Unity Lake SRS | 39,555 | \$941 | \$876 | 8 | 11 | \$210 | \$397 | 8 | 11 | \$196 | \$370 |

Valleys Region summary

According to Oregon State Parks’ figures, properties in the Valleys Region received over 8.2 million recreation visits in 2014. The Portland Metro District (including the Columbia River Gorge Management Unit) accounted for more than 5 million of those visits. Information from visitor surveys was used to determine the types of recreation trips taken to Oregon State Parks properties within the Valleys Region (Table 7). The Columbia River Gorge Management Unit is distinct from the other areas in that non-primary trips are the most common type of visit to properties in that Management Unit. This is reasonable, given that there are a suite of different recreation activities within the Columbia River Gorge and many visitors are likely stopping at multiple places to recreate. In the remainder of the Valleys Region, local day trips are the most common type of recreation trip to the properties. In the Willamette District, the majority of visits are non-local overnight visits. For properties in Lane County, local day trips comprise the majority of recreation trips to State Parks’ properties. Properties in the Portland Metro District (minus the Gorge units) and the northern part of the Willamette District attract a greater share of non-local day trip visits than elsewhere within the Valleys Region. Trail users are assumed to be most frequently local day visits followed by non-primary and non-local overnight visits, based on the trip-type distribution of visitors to National Forest System land (White and Stynes 2010).

Table 7—Trip-type distribution of visits to Oregon State Parks properties, Valleys Region, 2012-2014

| Area | Non-local Day | Non-local Overnight | Local Day | Local Overnight | Non-primary | Total |
|---------------------------------------|----------------------|----------------------------|------------------|------------------------|--------------------|--------------|
| Columbia River Gorge Management Unit | 13% | 32% | 8% | 5% | 43% | 100% |
| Portland Metro District (w/out Gorge) | 16% | 37% | 13% | 6% | 29% | 100% |
| Willamette District (north) | 20% | 34% | 18% | 3% | 24% | 100% |
| Willamette District (Lane County) | 9% | 57% | 7% | 6% | 21% | 100% |
| State Parks trail users | 8% | 13% | 62% | 2% | 15% | 100% |

Economic contribution of Valleys Region recreation

Collectively, the direct spending of visitors to Oregon State Parks properties in the Valleys Region supports about 2,200 full and part time jobs, \$54.7 million in labor income, and \$80 million in value added (Table 8). Converted to full-time equivalents, the direct spending of visitors to Valleys Region properties supports 1,816 full-time equivalent jobs. The secondary activity generated from visitor spending increases sales by about \$55 million, supports an additional 497 full and part-time jobs, and \$19 million in additional income. Businesses (and

employees) in the sector containing restaurants and bars receive the greatest economic effect from spending of Oregon State Parks visitors.

Table 8—Economic contribution to local communities from Oregon State Parks visitor spending, Valleys Region, 2014

| Sector/Spending category | Sales \$000's | Jobs | Labor Income \$000's | Value Added \$000's |
|---------------------------------|--------------------------|--------------|---------------------------------|--------------------------------|
| Direct Effects | | | | |
| Motel, hotel cabin or B&B | \$20,627 | 223 | \$4,702 | \$10,287 |
| Camping fees | \$18,842 | 241 | \$5,862 | \$9,194 |
| Restaurants & bars | \$38,441 | 663 | \$14,832 | \$20,418 |
| Admissions & fees | \$16,596 | 344 | \$7,649 | \$10,379 |
| Recreation & entertainment | \$7,960 | 163 | \$3,651 | \$4,946 |
| Grocery stores | \$14,111 | 260 | \$7,883 | \$9,412 |
| Gas stations | \$12,594 | 204 | \$6,150 | \$8,515 |
| Other retail | \$3,488 | 59 | \$1,826 | \$2,640 |
| Wholesale trade | \$5,987 | 30 | \$1,792 | \$3,749 |
| Local production of goods | \$1,971 | 6 | \$319 | \$458 |
| Total Direct Effects | \$140,619 | 2,194 | \$54,666 | \$79,998 |
| Secondary effects | \$55,760 | 497 | \$19,259 | \$35,113 |
| Total Effects | \$196,379 | 2,691 | \$73,926 | \$115,111 |
| Multiplier | 1.40 | 1.23 | 1.35 | 1.44 |

Note: Figures may differ slightly from those shown in Table 6 because of rounding.

Economic impacts of Valleys Region recreation

The primary difference between economic contribution and economic impact analyses is the inclusion of spending by local residents in the former analysis. Economic impact analysis attempts to quantify the economic activity generated from “new” money brought to the region. Economic impact analysis attempts to quantify the amount of economic activity that would be lost to the region were the attraction not present. In this analysis, we include the non-primary visits that are associated with non-locals. As in all other analyses, we apply the average spending of day visitors already in the area to non-primary visits. The economic impact of Valleys Region visitation results is about \$102 million in direct sales, 1,582 full and part-time jobs, and about \$39 million in labor income (Table 9). Converted to full-time equivalents, the economic impact of the direct spending of visitors at Valleys Region properties supports 1,318 full-time equivalent jobs. Secondary economic activity from non-local visitor spending generates an additional \$40.7 million in sales and supports an additional 366 full and part-time jobs.

Table 9— Economic impact to local communities from Oregon State Parks visitor spending, Valleys Region, 2014

| Effect | Sales \$000's | Jobs | Labor Income \$000's | Value Added \$000's |
|-----------------------------|----------------------|--------------|-----------------------------|----------------------------|
| Total Direct Effects | 101,983 | 1,582 | 39,015 | 57,512 |
| Secondary Effects | 40,773 | 366 | 14,193 | 25,678 |
| Total Effects | 142,756 | 1,948 | 53,208 | 83,190 |

Note: Figures may differ slightly from those shown in Table 6 because of rounding.

Study limitations

This analysis incorporates a large volume of data collected from a variety of Oregon State Parks properties. The estimates of average visitor spending are computed from several thousand survey responses. To estimate average visitor spending and total spending attributable to Oregon State Parks properties, we follow the framework adopted by the USDA Forest Service (White et al. 2013) and the National Park Service (Cullinane-Thomas et al. 2014). Many of the uncertainties and errors in recreation economic impact studies tend to inflate impact estimates (Stynes and White 2006). To counter that general pattern, we have adopted a conservative approach to estimating visitor spending and the attribution of visitor spending. The estimates of average spending found in this study are consistent with those reported for the USDA Forest Service and National Park Service (White et al. 2013, Cullinane-Thomas et al. 2014). The numbers of recreation visits at each property are Oregon State Parks estimates developed using established internal procedures.

In some cases, visitors may enter and exit properties multiple times in a single day during a single visit or may complete visits to a single property on consecutive days in conjunction with an overnight stay (e.g., at a hotel) in the local area. Multiple entries and exits on a given day during a single visit have the potential to inflate the estimate of the number of actual visits, and thereby the estimates of total spending, received at a property. To the extent re-entry is not corrected for in the existing visit estimates, the estimates of total spending may be inflated. The spending averages for overnight visitors represent spending in the local area during the entire trip. To the extent that some visitors might stay overnight in hotels or motels (a single trip), but enter the same property on multiple consecutive days (multiple visits), the estimate of total spending may be inflated. Re-entry to the same property on consecutive days during the same trip likely presents little issue for the properties considered here.

To estimate the economic activity in rural communities associated with Oregon State Parks visitor spending, we must rely on models of the economies of those communities. In any application, the extent to which the model is an adequate representation of reality influences the accuracy of model results. To estimate the average spending of recreation visitors, we rely on data collected from a sample of recreation visitors. We assume that the sample of recreation visitors collected in the course of this research is representative of the population of visitors to the Oregon State Parks properties that are the focus of this report.

It is not common practice to place confidence intervals on estimates of economic contribution or impact. Regardless, we are not able to do so in this case because variance estimates were not provided for Oregon State Parks visitation figures. Further, the variance patterns around the spending averages reported above do not trace though linearly to the contribution and impact estimates from the economic model. The reasonableness of the estimated economic effects is frequently judged based on the statistical confidence regarding the inputs (i.e., average visitor spending and recreation use estimates).

Expenditures by Oregon State Parks to operate and staff properties also create economic activity in local communities. We have not estimated that economic activity here. However, we do model the economic activity generated from expenditures for campground fees. The fees we estimate here are collected by Oregon State Parks as well as private campgrounds and other public campgrounds. Campground fees collected by Oregon State Parks are largely spent in the local area by the same property for campground operation. Because of how we have handled campground fees, those “operation” expenditures by Oregon State Parks are represented partially in this analysis. Because it would lead to some double counting, the economic activity results reported here should not be added directly to any estimates of economic activity developed for Oregon State Parks operations and staffing.

References

- Cullinane-Thomas, C.; C. Huber; L. Koontz. 2014. 2013 National Park Visitor Spending Effects. Natural Resources Report NPS/NRSS/EQD/NRR—2014/824. 42 p.
- Lindberg, K.; Bertone-Riggs, T. 2015a. Oregon non-motorized boater participation and priorities. Report to Oregon Parks and Recreation Department.
- Lindberg, K.; Bertone-Riggs, T. 2015b. Oregon non-motorized trail participation and priorities. Report to Oregon Parks and Recreation Department.
- Minnesota IMPLAN Group. 2013. IMPLAN Version 3. <http://www.implan.com/>
- Stynes, D.J. 2011. Economic benefits to local communities from National Park visitation and payroll, 2010. Natural Resource Report NPS/NPSS/EQD/NRR 2011/481. 44 p.
- Stynes, D.J.; White, E.M. 2006. Reflections on measuring recreation and travel spending. *Journal of Travel Research*. 45(August): 8–16.
- White, E.M.; Stynes, D.J. 2008. National forest visitor spending averages and the influence of trip-type and recreation activity. *Journal of Forestry*. 116(1): 17–24.
- White, E.M.; Goodding, D. 2012. Spending and economic activity from recreation at Oregon State Park Units—Coastal Region and Milo McIver State Park, an update. 32 p.
- White, E.M.; Goodding, D. 2013. Spending and economic activity from recreation at Oregon State Park Properties—Columbia River Gorge Management Unit. 19 p.
- White, E.M.; Goodding, D. 2014. Spending and economic activity from recreation at selected Valleys Region Oregon State Park Properties, 2014 update. 20 p.
- White, E.M.; Stynes, D.J. 2010. Updated spending profiles for national forest recreation visitors by activity. 42 p.
- White, E.M.; Goodding, D.B.; Stynes, D.J. 2013. Estimation of national forest visitor spending averages from National Visitor Use Monitoring: Round 2. PNW-GTR-833. 65 p.
- Zarnoch, S.J.; White, E.M.; English, D.B.K.; Kocis, S.M.; Arnold, R. 2011. The National Visitor Use Monitoring methodology and final results for Round 1. Gen. Tech. Rep. SRS-144. Asheville, NC: U. S. Department of Agriculture, Forest Service Southern Research Station. 74 p.

Appendix—analytical methods

Data for estimating visitor spending

We adopted a variety of rules for data cleaning and exclusion in developing visitor spending averages. The rules we have adopted in this analysis are consistent with those used in estimating visitor spending for the USDA Forest Service (White et al. 2013) and National Park Service (Cullinane-Thomas et al. 2014). Year 2014 survey data were excluded from this analysis if the respondent appeared to have left all spending responses blank (1,232), the spending was determined to be an outlier or a contaminant (408 cases), or the respondent failed to answer questions that allowed us to classify them into a visitor segment (57 cases) (Table 10).

Table 10—Cases excluded from analysis, 2014 data

| | |
|---|--------------|
| All surveyed cases | 3,168 |
| Respondents with all spending responses missing | 1,232 |
| Outlier and contaminant cases | 408 |
| Nights spent locally > 30 | 1 |
| Group size > 10 | 300 |
| Spending per night \geq 500 or recreation equipment expenses \geq 500 | 107 |
| Unable to classify into a visitor segment | 57 |
| Did not answer if any nights were spent locally | 12 |
| Could not classify as local or non-local | 45 |
| Cases for economic analysis | 1,471 |

There were 1,232 observations where expenditures in all categories were blank in 2014. Respondents who leave all spending categories blank often do so because either 1) the respondent in fact did not have any spending and indicated that zero spending by leaving the responses blank or 2) refused to report their spending. In this analysis we have chosen to treat those who leave all expenditure categories blank as refusing to report their spending. We have excluded them from the analysis. All else being equal, this approach will increase the reported average spending. In cases where respondents provided spending figures in some categories but not others, we have filled those individual categories with zeros.

We have also adopted rules to minimize the influence of contaminant and outlier observations. Contaminants are observations that do not belong to the population or are erroneous observations. An observation that includes spending that actually occurred outside the 30-mile radius around the recreation site or an observation that misplaces the decimal point when reporting an expense (i.e., 1,000.00 dollars versus 10.00) are both examples of contaminants. An outlier is an observation that does belong to the population under study but has undue influence on the estimation of the sample mean given the size of the sample. For example, some day visitors may spend \$800 during an outdoor recreation trip, but such spending is uncommon and

the vast majority of visitors spend substantially less or nothing at all (Stynes and White 2006). When sample sizes are small, outlier observations can significantly influence the estimate of the sample mean.

In these spending averages, we excluded observations under the following conditions:

- The number of nights spent away from home in the local area was greater than 30,
- The reported size of the group was greater than 10 individuals,
- Spending per day/night was greater or equal to \$500 or spending on recreation and equipment rental was greater or equal to \$500 in total,
- Cases we could not classify as local or non-local or if the respondent did not state if nights were spent in the local area.

Determining trip-type distribution and average party size

Visit estimates for year 2014 were provided for individual properties by Oregon State Parks. Visits were reported separately for day use areas and overnight facilities of individual properties. In the sampling effort, visitors within day use areas were surveyed on-site via intercept sampling; visitors using overnight facilities were surveyed online using reservation records. From those separate samples of day use area and overnight visitors, we determined the shares of survey respondents completing day and overnight trips, the share of local and non-local visitors, and the share of non-primary visitors. For day-use-only properties, we distributed visits into trip types using only responses from those individuals sampled at day use properties. For properties with both day- and overnight-use areas, we apportioned day visits across trip types using the day use area sample and overnight visits across trip type using the overnight use sample. In determining the trip-type distribution, we assumed that we have a representative sample of visits to Oregon State Parks properties.

To estimate total spending, the estimates of recreation use and average visitor spending must be placed in the same units. For this study we have converted visits to party visits using estimates of average party size, within trip type. Average party size estimates were computed from collected survey data (Table 11).

Table 11—Average number of visitors per party by trip type

| Area | Non-local Day | Local Day | Non-local Overnight | Local Overnight | Non-primary |
|---------------------------------------|----------------------|------------------|----------------------------|------------------------|--------------------|
| Columbia River Gorge Management Unit | 3.2 | 3.7 | 3.1 | 3.4 | 3.1 |
| Portland Metro District (w/out Gorge) | 1.9 | 1.7 | 2.0 | 2.0 | 2.0 |
| Willamette District | 2.2 | 1.8 | 2.0 | 2.2 | 1.8 |
| South Central District | 3.9 | 3.6 | 3.9 | 4.0 | 3.4 |

The average spending of recreation visitors to Oregon State Parks State Trails was estimated from the subset of visitors sampled in the first three years of Oregon State Parks sampling who claimed to have the primary activity of hiking or walking. In previous analyses of recreation visitor spending, we have found that the spending of hikers is representative of average spending of all trail users (including bikers). For trail users, expenses for gasoline are lower than that of other groups while spending for restaurants is higher. These spending averages are generally consistent with trail users recreating on federal recreation resources.

Table 12—Average spending of trail users at Oregon State Parks properties, \$ per party per trip

| Spending categories | Non-local Day | Non-local OVN | Local Day | Local OVN | Non-primary |
|------------------------------|----------------------|----------------------|------------------|------------------|--------------------|
| Lodging | 0.00 | 34.36 | 0.00 | 13.82 | 41.90 |
| Camping | 0.00 | 44.75 | 0.00 | 28.26 | 22.60 |
| Restaurant | 14.88 | 31.35 | 6.17 | 12.03 | 31.96 |
| Groceries | 2.87 | 45.70 | 3.74 | 43.97 | 22.00 |
| Gasoline | 15.61 | 45.00 | 8.85 | 32.53 | 32.78 |
| Entry Fees | 3.79 | 8.90 | 3.53 | 11.71 | 5.85 |
| Recreation & entertainment | 0.05 | 1.63 | 0.33 | 8.38 | 2.56 |
| Souvenirs and other expenses | <u>1.14</u> | <u>7.66</u> | <u>1.50</u> | <u>4.91</u> | <u>11.91</u> |
| Total | 38.34 | 219.35 | 24.12 | 155.61 | 171.56 |

All figures expressed in 2012 dollars. Percent error represents the size of the 95% confidence interval around the estimate of total visitor spending.